

sculty in breathing, nor any other alarming symptoms—pulse 100. Took half an ounce of sulphate of magnesia, which was repeated in the afternoon.

"Fourth day. Wound dressed; has in a great measure healed—pulse 100—has a disposition for nourishment, and swallows well. From this time he recovered rapidly.

"The tumour on the inside of the throat inflamed soon after the operation, and had great appearance of sloughing away. But this appearance subsiding, in sixteen days from the first operation the actual cautery was applied. A piece of horn was so shaped as to receive and convey securely an iron across the mouth to the throat. This being introduced, a globe of iron, half an inch in diameter, with a handle attached to it, was heated red hot and carried to the tumour, and pressed forcibly into it. The substance appearing very hard, a second red hot iron was employed in the same manner.

"On that day and the next, the patient suffered considerably from this operation. By the fourth day he was as well as before it; and the slough having separated, he left the hospital within a week, and went home into the country.

"From some exposure, he got an inflammation of the throat, which for a time had an unpromising aspect; but from this he has now recovered, and is well enough to resume his common occupation.

"A surgeon who undertakes an operation on a deep-seated tumour, should be prepared to find great deviations from the natural state of parts; and he must not expect his knowledge of anatomy to serve as his sure and infallible guide in this new state of things. A deliberate observation of parts, as they present themselves, can alone conduct him safely along.

"The recovery of this patient shows what extraordinary wounds a weak, yet amirritable constitution can support. In this operation, which lasted an hour, including the faintings, the carotid artery was tied; the par vagum nerve and the internal jugular vein dissected, for a considerable extent; the accessory and sublingual nerves exposed; the glosso-pharyngeal and the descending branch of the sublingual, (*hypoglossal?*) or descendens noni, cut off; part of the pharynx and trachea uncovered; the mastoid muscle dissected for its whole length and divided; the omo-hyoid, sterno-hyoid and sterno-thyroid dissected, and the first divided; the digastric and internal pterygoid and other small muscles dissected; and the transverse processes of the cervical vertebrae in part exposed."—*Boston Medical and Surgical Journal*, Vol. I. No. II.

*Injuries of the Head.*—The first number of the Transylvania Journal of Medicine, and the Associate Sciences, contains a highly interesting paper by Professor DUNLAP, on this subject. The experience of Professor D. has induced him to depart from the commonly received principles by which surgeons are governed in regard to the use of the trephine. "In skilful hands," he says, "the operation beyond the atmosphere of large cities, is neither dangerous in its consequences, nor difficult in the execution."

It is well known that Mr. Cline cured two cases of epilepsy caused by injury of the head, by the use of the trephine, and Professor D. adduces as further evidence of the efficacy of the operation, three cases in which it was successfully performed by himself.

*Case I.* Mr. K. a carpenter, consulted Dr. D. in September, 1818, "on account of a severe pain in the superior and posterior part of the cranium which had afflicted him for nine months. A succession of tumours had at various periods appeared about the seat of the pain. Upon an examination, in place of tumours, two very sensible depressions were discovered on the surface of the skull, attended by extraordinary sensibility in the integuments of the parts. About Christmas all the symptoms became aggravated and severe epileptic convulsions ensued. His convulsions were so frequent and violent in the latter part of winter that it was apprehended he would speedily fall a victim to his disease." During the months of February, March, and the beginning of April,

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he was constantly confined with a severe affection of his head, attended by violent epileptic fits every five or six days.

"The trephine was used on the 16th day of April, two circular pieces of bone being removed, corresponding with and including those portions which by previous examination seemed to be depressed. The pericranium was remarkably thickened and morbidly sensitive. The bone was porous, and admitted of large processes of this membrane, and of blood-vessels to pass directly to the dura mater. The bone removed by means of the trephine was immediately in the direction of the longitudinal sinus, while there was great difficulty in breaking up the connexions between it and the dura mater. After the operation was completed, I was astonished on turning my attention to the dura mater, to discover a copious secretion of fluid which separated that membrane from the surface of the brain more than half an inch; while that organ in place of giving to the finger a sense of pulsation, felt as hard and as unyielding as a board. The patient being dressed in the usual way, was put to bed and kept quiet till the fifth day, when from the establishment of free suppuration the bandages were removed. It was now ascertained on examination, that the fluid beneath the dura mater was absorbed. The brain had regained its proper level and pulsated with unusual vigour: no convulsion had occurred since the operation. The dressings being renewed, he was ordered a mercurial course of treatment with a view to correct the secretions and to promote the healthy action of the absorbents. At the expiration of three months he was perfectly restored to health, having experienced only two slight attacks of epilepsy during his recovery, while his head, which had for many months given him excessive pain, caused but little inconvenience after the operation. From an occasional intercourse with this patient for many months after all professional attendance and advice were suspended, I am prepared to pronounce on the cure as radical."

*Case II.* W. T. a young gentleman from South Carolina, æt. twenty-one, when five years of age "received a blow accidentally on the superior and middle portion of the left parietal bone. Being at school, he was able to go home on foot without giving any particular manifestations calculated to excite alarm. On the ninth day he became suddenly apoplectic, and paralysis of one side ensued. The paralytic affection gradually disappeared, so as to leave him in the enjoyment of his faculties, as well corporeal as intellectual, at the expiration of two months; but from that period he became the subject of severe pain in his head, and especially about the seat of the injury he had previously sustained. From this time his constitution became exceedingly delicate and excitable, with disinclination for exercise, and liability to faintness after the slightest exertions: finally about his fourteenth year, nine years after the reception of the injury, he became the subject of epileptic convulsions. These had ever since continued to recur at irregular intervals of two, three, or four weeks, varying with the occasional causes which for a time invited or retarded their appearance. He had been but a short time the subject of epilepsy, until a most manifest improvement in his constitution took place. His personal appearance and constitutional vigour being much changed for the better, his former excitable habit, with his liability to faint after every slight exertion, now left him. But these flattering symptoms were soon followed by a perceptible injury of his intellect, inasmuch that it became useless to confine him longer to his studies in school.

"After receiving this history of the situation of the patient from the mother, upon turning to himself with a view to additional information, I observed a stammer in every attempt an enunciation; while his memory had become so entirely treacherous, that he could no longer recite with any degree of accuracy, an event which had transpired within two days, his recollection being good, however, in relation to circumstances of his childhood. For most particulars in relation to his daily history, even in reference to the operation of a dose of medicine, it was necessary to consult his mother.

"A cicatrix on the side of the scalp pointed out the seat of the original injury. Under all these discouraging circumstances, after a few days preparation, the operation was resorted to on the 10th of May, 1825, to relieve him of an injury, the consequences of which had been accumulating upon him for sixteen years. A small depression of bone appearing manifest, corresponding with the original site of the injury, indicated the point upon which to apply the trephine. The crown of the instrument was made to embrace the depressed bone, which, when removed, presented a process projecting from its inner surface about one inch in length, of the size of a small quill at its base, the extremity tipped with soft cartilage. This spiculum of bone had penetrated the dura mater, and communicated with a large preternatural sinus, from whence issued a stream of blood as thick as a man's little finger, which continued to flow from the instant the bone was removed, until from the quantity lost, it was judged proper to check it by means of pressure. The dura mater was diseased, presenting a dark blue appearance over a space nearly as large as the opening in the cranium made by the trephine; while the sinus beneath appeared to be, from an examination made by the little finger, more than an inch in depth, and of equal width. The disposition to hæmorrhage was checked in a few minutes by means of pressure with the thumb, and being now satisfied that the trephine was not further necessary, it was proposed to cleanse and dress the wound. Before the dressings were applied, an alarming convulsion came on, during the continuance of which, a stream of blood issued through the opening of the dura mater, that projected three or four feet. A second and third convulsion ensued, with like discharges of blood from the opening of the dura mater, before the patient could be placed in bed. For six or eight hours after the operation, he remained in an insensible state, and then his natural feelings and reason returned.

"It was now supposed, whatever might be the termination of the case, the cause originally productive of the disease was removed. From bloody water, the discharge from the wound changed in the course of twelve hours to a colourless serum, and for three days and nights in succession, it was so copious as to make it necessary to change towels, pillows, bolsters and sheets, two or three times during the day. Those young gentlemen who assisted in dressing and attending to the case, insisted that the entire amount of serum discharged, could not be less than two gallons. On the morning of the fourth day the dressings were dry, and in some few hours after, suppuration became manifest. The wound was now dressed with adhesive plaster, which was renewed daily for about thirty days, when it was healed.

"The patient had no convulsion after the day on which the operation was performed; a manifest improvement in his memory became perceptible in a few days to all around him. His stammer, which appeared to proceed from an indistinct recollection of things, very suddenly vanished, his eye which had been half closed, heavy, and inanimate, was now sprightly and intelligent. In ten days he left his room, and at the end of six weeks he returned home in the enjoyment of perfect health; travelling a distance of five hundred miles in the month of July, in ten or twelve days."

*Case III.* A young man, æt. twenty-three, when five years old "received a kick from a horse, which fractured and depressed a portion of the right parietal bone. The immediate symptoms were not particularly alarming, notwithstanding a wound also in the scalp, nor was there any extraordinary defect either in general health or constitutional development, until about the fifteenth year of his age, when, without any assignable cause, he had for the first time an epileptic convulsion.

"From that time he continued to be the subject of epilepsy every second, third, and sometimes fourth week, according as the exciting causes acted with more or less intensity. The continuance of epilepsy for eight years, had reduced his constitutional vigour, and rendered his system morbidly excitable. The condition of his mind was still more deplorable, his memory having undergone almost a total extinction. In the latter part of February, 1826, after

spending a few days in preparing the system, the operation was performed in the amphitheatre, in the presence of all the class.

"The external incision being made, the trephine was applied in such a manner as to cover the larger portion of the depressed bone. In two or three turns of the instrument, the cranium was penetrated in one point of the circle; and through this opening, which could have been closed with the small end of a surgeon's probe, transparent colourless serum flowed during the balance of the operation.

"The circular piece of bone being removed, the dura mater was found defective to the extent of a twelve-and-a-half cent piece of silver, which exposed a sinus reaching down to the petrous bone, near the base of the skull. A spinous process projected from the inner table of the bone about half an inch long, its base being of equal dimensions. A small portion of the spinous process was not included by the trephine; this was removed by means of a strong pair of forceps. The sinus in which the serum was collected, was large enough to receive a hen's egg. The patient had two light attacks of epilepsy on the second and third days after the operation; but on the fourth, suppuration was established, the dressings were renewed, and he began to give assurances of a successful issue by a more sprightly and animated countenance. Each successive dressing was accompanied by new evidences of intellectual and corporeal improvement; and at the end of the fourth week, the wound having cicatrised, the patient returned home in the enjoyment of perfect health."

In using the trephine for the cure of certain forms of epilepsy, Dr. D. very justly observes, it becomes a subject of particular interest to be prepared to designate those cases in which the operation is demanded with a view to cure, from others which, notwithstanding epilepsy supervenes upon morbid ossification pressing upon the brain, are yet beyond the reach of all surgical skill. The use of the trephine, he says, could not be justified, except in cases of evident depression of bone, or of a morbid condition of it produced by violence or other causes, leaving thereby but little doubt in regard to the place upon which to use the instruments as well as the practicability of removing the causes productive of morbid cerebral excitement.

It is well known that a difference of opinion exists between the surgeons of England and France, respecting the propriety of healing certain wounds by the first intention. In England and this country it is a general rule to attempt the union of wounds by the first intention; Dr. D. thinks, however, that it is yet to be decided, whether wounds of the scalp, accompanied by an injury done the parts beneath the skin, do not constitute an exception in practice. The common integument being more vascular, and enjoying in a higher degree the power of restoration than those parts which it protects, frequently heals, while the parts over which it has united are still labouring under the consequences of the injury inflicted. Even where no unpleasant consequences in regard to a translation of morbid excitement to the dura mater ensues, it not unfrequently happens, says Dr. D. that the pericranium and bone become diseased, thereby producing a train of symptoms always alarming, and too frequently fatal.

"Numerous cases," says he, "are fresh in my recollection, and they occur every season, where chronic inflammation of the pericranium, with all its threatening train of evils, follows the union of the integuments by the first intention, in a contused wound on the scalp."

Dr. D. relates an interesting case of fungus cerebri, in which he used dry sponge bound as closely on the fungus as the feelings of the patient would permit, and found it the most effectual mode of applying gentle and regularly increasing pressure. To prevent the vessels from penetrating the sponge, a piece of fine linen or muslin should be interposed between it and the brain; as the sponge absorbs the secretions of the part, the pressure is regularly and insensibly increased, and Dr. D. has in five days by this means cured the fungus cerebri, and produced a sinus below the dura mater equal in magnitude to the fungus, without exciting unpleasant symptoms.